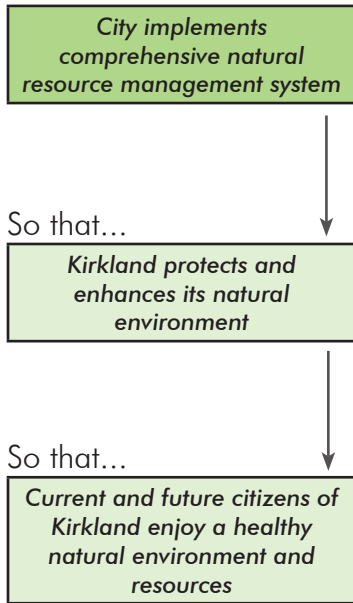


# ENVIRONMENT

goal **Protect and enhance our natural environment for current residents and future generations**



MEASURE	2007	2008	2009	2010	Target
Compliance with NPDES Stormwater Permits	100%	100%	100%	100%	100%
Diversion rate <sup>1</sup>	47.8%	48.6%	49.3%	50.1%	Increase
City building electricity use (kilowatt/hour)	*	3,030,298 kWh	2,875,575 kWh -5% change	2,581,213 kWh -10% change	Decrease
City building natural gas usage (therm)	*	58,937 therm	68,507 therm +16% change	55,557 therm -19% change	Decrease
Tree canopy coverage	*	*	*	36%	40%
Benthic Index of Biotic Integrity in Forbes Creek <sup>2</sup>	15.3	14.7	17.3	16	Increase
Benthic Index of Biotic Integrity in Juanita Creek <sup>2</sup>	17.5	19.5	20.5	19.5	Increase
Waste entering landfill from residences	15,429 tons (+1.5%)	14,320 tons (-7.2%)	14,320 tons (0%)	13,726 tons (-4.1%)	Annual 2.5% decrease
Annual reduction in City's greenhouse gas emissions as a percent of 2005 levels	*	*	23.4%	*	80% below 2005 levels by 2050

<sup>1</sup> Diversion rate-percent of waste materials diverted from the landfill to be recycled, composted or reused. Includes single family and multi-family residences.

<sup>2</sup> BIBI scores of 10-15 indicate very poor, 18-26 indicate poor stream conditions. Scores are an average of the 3-4 testing sites' scores in each creek.

\* No data available due to data collection occurring less than annually.

## HOW DO WE MEASURE ENVIRONMENTAL STEWARDSHIP?

National Pollutant Discharge Elimination System (NPDES) storm water permit compliance encompasses the wide range of actions the City undertakes to improve surface water quality. The Benthic Index of Biotic Integrity provides a standard measure for the health of streams, which are vital ecosystems.

Recycling diversion rates and waste entering the landfill measure the effect of the City's waste reduction efforts.

Electricity and natural gas consumption create 40% of the City's carbon dioxide emissions, so decreasing energy usage relates to the City's reduced emissions.

Ensuring healthy urban forests and canopy coverage provides many environmental benefits, including reducing storm water runoff and removing pollution from the air.

## HOW ARE WE DOING?

- Since the NPDES Phase II Stormwater Permit became effective in 2007, Kirkland has maintained 100% compliance.
- Kirkland's single family residential adjusted diversion rate of 66% was the highest diversion rate in King County among cities with 500 or more customers. Kirkland's multi-family residential adjusted diversion rate is 15%, which is above King County's average of 11%.
- The City has reduced its energy usage in its buildings with the most recent change being a 10% decrease in electricity and 19% decrease in natural gas usage between 2009 and 2010. These reductions are in line with the Energy Star challenge to reduce City facility energy use by 10%.
- The City has met its greenhouse gas reduction targets for both 2012 (507 tons) and 2020 (1014 tons) by reducing annual City emissions by 23.4% from 2005 levels, a 1,188 ton reduction.
- Kirkland's tree canopy coverage increased from 31.6% in 2002 to 36% in 2010, a 13.9% increase.
- The Benthic Index (B-IBI) scores remain in the poor to very poor range in Juanita and Forbes Creeks.

## WHAT IS THE CITY DOING?

The City takes a comprehensive approach to environmental stewardship by restoring and protecting urban forests and bodies of water, reducing waste and greenhouse gas emissions, and providing education in the community regarding environmentally-friendly practices.

The City holds a National Pollutant Discharge Elimination System (NPDES) storm water permit, which provides strict guidelines for storm water management. Kirkland must continuously expand and improve storm water management programs in order to maintain compliance with increasingly stringent conditions. The City reduces pollutants in storm water by involving the public through education and outreach, finding and eliminating water quality violations, controlling runoff from development, operating and maintaining storm water facilities and monitoring storm water conditions. Kirkland also completes stream restoration projects to preserve and restore natural habitats. The City's car wash kits are loaned to local groups and individuals to prevent pollutants from car washing events entering the storm water system.

The City expanded food scrap and recycling programs to businesses and multi-family residences by providing collection services at no extra cost and offering recycling materials and educational outreach to participants. In 2009, the City instituted a linear rate structure, which encouraged more than 1,000 customers to switch to smaller, less expensive garbage carts that carry less waste to the landfill. Through the organization of special recycling events and programs in 2010, Kirkland diverted from the landfill 16.2 tons of electronic waste, 8,470 pounds of batteries, and 102 tons of reusable and hard-to-recycle materials.

The annual greenhouse gas emissions inventory of City operations measures our progress towards reducing emissions to 80% of 2005 levels by 2050. The City has reduced its greenhouse gas emissions through increasing energy efficiency, reducing waste and increasing recycling, encouraging alternative commute options and enhancing the fleet's fuel efficiency and access to alternative fuels. 71% of the 41 passenger vehicle fleet use alternative fueled vehicles.

Kirkland's comprehensive tree ordinance protects and encourages the growth of its urban tree canopy coverage, retaining valuable trees with development, reducing further loss of canopy with its tree removal limitations and requiring tree replacement planting. Additionally, the Green Kirkland Partnership's restoration projects planted 3,326 native plants, including 397 trees in 2010. This restoration aids in carbon reduction and improved storm water management.

## Green Building At City Hall

Kirkland is a pioneer in the region for green building. The Green Building team helps builders and developers adopt sustainable building practices.

The expedited permit review process for single family homes that have LEED or Built Green certifications encourages green building. The City also provides green consultations to builders to improve sustainable practices. The Green Building team is working to instill sustainable low impact development (LID) practices into the Kirkland Zoning Code.

The recent remodel of the City Hall Annex demonstrates how the City has put green building principles into practice. The Annex, a Community Landmark, was originally constructed in 1923. Despite challenges due to the building's age, the City retrofitted the Annex using the Leadership in Energy and Environmental Design (LEED) green building certification process.

Compact fluorescent lighting, operable windows, and sun shades conserve energy. Dual-flushing toilets, metered faucets, native plant landscaping and rain water barrels reduce water usage. The building was preserved with its original wood floors to reduce new building materials. Several large conifers were protected during construction and deciduous trees were planted to keep the building cool. To maintain a healthy interior environment, all interior finishes and paints and furniture minimize off-gassing of pollutants. A very significant measure of the Annex's sustainability is the preservation of the original structure and all of the embodied energy that the building represents.

In September of 2011, the Annex received a LEED Gold certification.